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EXAMINER	
PATEL, MAHENDRA R	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/571,607	PESIA ET AL.	
	Examiner	Art Unit	
	MAHENDRA PATEL	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This communication is in response to amendment filed on 10/21/2009.
Application No: 10571607.

Claims 1-21 are pending
Claim 21 is new.

Response to Arguments

1. An examiner's Response to the record appears below.

2. Applicant's arguments with respect to claims 1-21 have been considered but they are but they are not persuasive.

3. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

4. **Regarding claim 8-12**, Applicant argues that (a) "Malkamaki does not refer to combinational multi-media sessions, and so the problems of TCP slow start when using a combinational multi-media session would not arise according to the teaching of Malkamaki. There is therefore no motivation for the skilled person to combine the disclosures of Menon and Malkamaki, as a combination of these documents would not lead to the present invention of claim 8 in which one TCP parameter is set for combinational multimedia session packet transfer, and a different TCP parameter is set for non-combinational multimedia session packet transfer in order to overcome the problems of a TCP slow start mechanism. Furthermore, the problem arising from a slow- start mechanism would not occur in either of Menon or Malkamaki, and so the skilled person would not combine these documents to arrive at Applicants' claims".

Claims 8-12 rejection is based on 103(a) which forms the basis for all obviousness rejections set forth. Malkamaki or Menon differs from teaching combinational multi-media session. However, Zhang clearly teaches combinational multi-media session in [0065-0068] (e.g. To effectively deliver multiple services over 3G W-CDMA channels, multiple stream support and QoS level differentiation should be addressed in the architecture. Multiple Stream Support is defined as the ability to simultaneously support streams with different QoS level requirements. This is important since multimedia communications between users may have components such

as voice, video, and data (i.e. combinational multimedia session) with different QoS level requirements. QoS Level Differentiation is defined as the ability to provide various data rates and various Bit Error Rates (BERs) to higher Network Layers. This is desirable to support the QoS levels of higher network layers). Malkamaki teaches different parameters for optimize radio resource usages ([0014] (e.g. in order to control the re-sequencing buffer sizes, some transmit and receive windows should be specified)). Menon teaches TCP/ Internet protocols ([0185] (e.g. Underlying, and thereby supporting, the network node management protocols, i.e., SNMP, FTP and MFTP, is a Transmission Control Protocol (TCP)/Internet Protocol (IP) channel, or connection, for the transfer of management data requiring a secure, i.e., reliable, transmission path)).

Therefore, one skilled in the art of communications would come to the conclusion that applicant's method of optimizing the use of radio resources in a mobile radio communication system during a combinational multimedia session is obvious by the combined methods of Zhang and Menon within the method of Malkamaki. The new method gives flexibility and hence versatile network. The new method speed-up network traffic flow and making it easier to utilize available resources.

Applicant's arguments regarding claims 8-12 are not persuasive and, therefore, the claims rejection is maintained.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. **Claims 1-3, 4-7, 8, 10-12, 14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. (US 20020172208 A1), in view of Zhang et al. (US 20020054578A1) and further in view of Menon et al. (US 20020048268 A1).

Regarding claim 1, Malkamaki teaches a method of optimizing the use of radio resources in a mobile radio communication system between user terminals associated with respective radio network control nodes where signals are transported over two radio links. The method comprising: at a sending radio network control node, disabling an in-sequence delivery option of packets between the radio network control nodes of the radio access network(s) serving the user terminals for said packet switched session ([0012] (e.g. …Therefore, it is advantageous

for either MAC-hs to provide in-sequence delivery of the RLC-PDUs of a message or for the RLC layer to be modified to support out of sequence delivery of RLC-PDUs (i.e. in-sequence delivery))); ([0019] (e.g. the MAC-hs entity of the receiving terminal may provide the signaling acknowledging receipt of the data blocks without use of sequence numbers (i.e. disabling an in-sequence delivery option) and may deliver the data blocks in order to the RLC layer of the receiving entity));

Malkamaki does not expressly teach multimedia system using packet switched session.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Zhang teaches multimedia system [0002] (e.g. the present invention relates to transmission of data over a network, and is more particularly related to systems, methods, and program products for transmission of multimedia data to a wireless host through a network)).

Malkamaki or Zhang does not expressly teach that the signals can be transported over two cascaded radio links.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Menon teaches cascaded radio links ([0189, 0190] (e.g. the Network management architecture for a BSS is based on the ETSI GSM (Global System for Mobile communication) series standard, such that the management functionality is cascaded as shown in FIG. 14 (i.e. Fig 13-21. management functionality includes management of network nodes in a wireless access network, Management of communication protocols, Management of data and circuit switching signaling plane, etc.)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invitation to implement the methods of Zhang and Menon within the method of Malkamaki to allow two or more communication interface techniques in a wireless network. The new method gives flexibility and hence versatile network. The new method speed-up network traffic flow and making it easier to manage.

Regarding claim 2, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations of claim 1. Malkamaki further teaches the method of claim 1, wherein said packets are Service Data Units, assembled at the RLC layer of the sending side radio network controller, from Protocol Data Units ([0126] (e.g. The Radio Link Control (RLC) sub-layer of the Data Link Layer provides three types of modes for data delivery (i.e. data packet sending), among which, the transparent mode transmits higher layer Protocol Data Units (PDUs) only with segmentation/reassembly functionality (i.e. Service Data packet assembling protocol at the RLC layer of the sending side of radio network controller))).

Regarding claim 3, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations of claim 1. Malkamaki further teaches the method of claim 1, wherein said packets are Radio Link Control Protocol Data Units which are tunneled from the sending side radio network controller to the receiving side radio network controller, the Protocol Data Units being assembled at the receiving side terminal into Radio Link Control Service Data Units ([0123, 0124, 0125] (e.g. The Radio Resource Control (RRC) sub-layer of the Data Link Layer interacts with lower layers to provide local inter-layer control services (i.e. Radio Link Control Protocol Data Units), such as determining the transport format combination set (TFCS), for efficient usage of transport channels (i.e. Tunnels from the originating side radio controller to

the receiving side radio controller). All information sent and received by a user is transported via the user plane. Application data is first packetized (i.e. Protocol Data Units being assembled) and then transported using the TCP/UDP transport protocol (i.e. Protocol Data Units being assembled at the originating terminal, and then transported thru tunnel to the receiving side terminal))).

Regarding claim 4, Malkamaki teaches a method of operating a radio network controller of a mobile communications network, the method comprising disabling an in-sequence delivery option for packets sent from the radio network controller to another radio network controller ([0019] (e.g. the layered protocol may include a MAC layer having a MAC-hs entity and also including an RLC layer, and the first layer may be the MAC layer, and the higher layer may be the RLC layer, and the MAC-hs entity of the receiving terminal may provide the signaling acknowledging receipt of the data blocks without use of sequence numbers (i.e. disabling an in-sequence delivery option) and may deliver the data blocks in order to the RLC layer of the receiving entity));

Malkamaki does not expressly teach multimedia packet switched session.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Zhang teaches multimedia system [0002] (e.g. the present invention relates to transmission of data over a network, and is more particularly related to systems, methods, and program products for transmission of multimedia data to a wireless host through a network)).

Malkamaki or Zhang does not expressly teach that the signals can be transported over two cascaded radio links from one RNC to another RNC.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Menon teaches cascaded radio links ([0189, 0190] (e.g. the Network management architecture for a BSS is based on the ETSI GSM (Global System for Mobile communication) series standard, such that the management functionality is cascaded as shown in FIG. 14 (i.e. Fig 13-21. management functionality includes management of network nodes in a wireless access network, Management of communication protocols, Management of data and circuit switching signaling plane, etc.)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invitation to implement the method of Menon within the method of Malkamaki to allow two or more communication interface techniques in a wireless network. The new method gives flexibility and hence versatile network. The new method speed-up network traffic flow and making it easier to manage.

Regarding claim 5, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations of claim 4. Malkamaki further teaches the in-sequence delivery option being an option of the Radio Link Control layer ([0023] (e.g. Besides providing for in-sequence delivery (to the RLC layer of a receiving terminal or to some other higher layer protocol of a receiving terminal) of user (data) PDUS, the invention can also be used to provide for in-sequence delivery of control PDUs)).

Regarding claim 6, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations claim 5. Malkamaki further teaches the method wherein said packets are Radio Link Control Service Data Units ([0012] (e.g. For unacknowledged mode (UM) service, if an RLC-PDU is missing, the complete RLC service data unit (RLC-SDU) is discarded)).

Regarding claim 7, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations claim 5. Zhang further teaches the method wherein said packets are Radio Link Control Protocol Data Units which are tunneled from the sending side radio network controller to the receiving side radio network controller ([0123, 0124, 0125] (e.g. The Radio Resource Control (RRC) sub-layer of the Data Link Layer interacts with lower layers to provide local inter-layer control services, such as determining the transport format combination set (TFCS), for efficient usage of transport channels (i.e. Tunnels from the originating side radio controller to the receiving side radio controller). All information sent and received by a user is transported via the user plane. Application data is first packetized (i.e. Protocol Data Units being assembled) and then transported using the TCP/UDP transport protocol (i.e. Protocol Data Units being assembled at the originating terminal, and then transported thru tunnel to the receiving side terminal)).

Regarding claim 8, Malkamaki teaches a method of optimizing the use of radio resources in a mobile radio communication system during a combinational multimedia session involving circuit switched and packet switched sessions between user terminals ([0012] (e.g. …Therefore, it is advantageous for either MAC-hs to provide in-sequence delivery of the RLC-PDUs of a message or for the RLC layer to be modified to support out of sequence delivery of

RLC-PDUs (i.e. in-sequence delivery))); ([0019] (e.g. the MAC-hs entity of the receiving terminal may provide the signaling acknowledging receipt of the data blocks without use of sequence numbers (i.e. disabling an in-sequence delivery option) and may deliver the data blocks in order to the RLC layer of the receiving entity));

Malkamaki does not expressly teach multimedia system using packet switched session.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Zhang teaches multimedia system [0002] (e.g. the present invention relates to transmission of data over a network, and is more particularly related to systems, methods, and program products for transmission of multimedia data to a wireless host through a network)).

Malkamaki or Zhang does not expressly teach that the network node management protocols (TCP).

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Menon teaches TCP/ Internet protocols ([0185] (e.g. Underlying, and thereby supporting, the network node management protocols, i.e., SNMP, FTP and MFTP, is a Transmission Control Protocol (TCP)/Internet Protocol (IP) channel, or connection, for the transfer of management data requiring a secure, i.e., reliable, transmission path. The TCP layer and IP layer of the node manager protocol stack and the TCP layer and IP layer of the node element protocol stack support secure TCP/IP channels for the transmission of management messages between the node manager and the node). Malkamaki teaches different parameters for optimize radio resource usages ([0014] (e.g. in order to control the re-sequencing buffer sizes, some transmit and receive windows should be specified)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invitation to implement the methods of Zhang and Menon within the method of Malkamaki to allow two or more communication interface techniques in a wireless network. The new method gives flexibility and hence versatile network. The new method speed-up network traffic flow and making it easier to manage.

Regarding claim 10, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations claim 8. Zhang further teaches the method wherein said TCP sending parameters are segment size and/or initial window size ([0124] (e.g. All information sent and received by a user is transported via the user plane. Application data is first packetized (i.e. segment size) and then transported using the TCP/UDP transport protocol)).

Regarding claim 11, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations claim 10. Menon further teaches the method comprising setting the TCP sending parameters such that the TCP sending window is greater than the size of the media to be sent ([0198] (e.g. The OMC protocol stack comprises an SNMP layer, a TCP/UDP layer supporting UDP functionality and an IP layer (i.e. TCP sending window is greater than the size of the media to be sent as a part of the protocol architecture).

Regarding claim 12, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations claim 10. Menon further teaches the method wherein the setup of setting the TCP window size comprises increasing the window size relative to that used for non-combinational multimedia session related packet traffic sent ([0198] (e.g. The OMC protocol stack comprises an SNMP layer, a TCP/UDP layer supporting UDP functionality and an IP layer

(i.e. TCP window size increasing the relative to that packet traffic sent as a part of the protocol architecture).

Regarding claim 14, Malkamaki teaches a method of operating a mobile radio communication system comprising: disabling an in-sequence delivery option of packets between the radio network control nodes of the radio access network(s) serving the user terminals ([0012] (e.g. …Therefore, it is advantageous for either MAC-hs to provide in-sequence delivery of the RLC-PDUs of a message or for the RLC layer to be modified to support out of sequence delivery of RLC-PDUs (i.e. in-sequence delivery))); ([0019] (e.g. the MAC-hs entity of the receiving terminal may provide the signaling acknowledging receipt of the data blocks without use of sequence numbers (i.e. disabling an in-sequence delivery option) and may deliver the data blocks in order to the RLC layer of the receiving entity));

Malkamaki does not expressly teach multimedia system using packet switched session.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Zhang teaches multimedia system [0002] (e.g. the present invention relates to transmission of data over a network, and is more particularly related to systems, methods, and program products for transmission of multimedia data to a wireless host through a network)).

Malkamaki or Zhang does not expressly teach that the signals can be transported over cascaded radio links.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Menon teaches cascaded radio links ([0189, 0190] (e.g. the Network

management architecture for a BSS is based on the ETSI GSM (Global System for Mobile communication) series standard, such that the management functionality is cascaded as shown in FIG. 14 (i.e. Fig 13-21. management functionality includes management of network nodes in a wireless access network, Management of communication protocols, Management of data and circuit switching signaling plane, etc.)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invitation to implement the methods of Zhang and Menon within the method of Malkamaki to allow two or more communication interface techniques in a wireless network. The new method gives flexibility and hence versatile network. The new method speed-up network traffic flow and making it easier to manage.

Regarding claim 15, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations claim 14. Malkamaki further teaches the method wherein further comprising: requesting the sending radio network control node to inhibit the in-sequence delivery option in response to the detecting ([0019] (e.g. the MAC-hs entity of the receiving terminal may provide the signaling acknowledging receipt of the data blocks without use of sequence numbers (i.e. disabling an in-sequence delivery option) and may deliver the data blocks in order to the RLC layer of the receiving entity));

And, Zhang further teaches enabling the sending radio network control node to forward a Service Data Unit (SDU) as soon as all Protocol Data Units (PDUs) thereof have been received ([0123, 0124, 0125] (e.g. The Radio Resource Control (RRC) sub-layer of the Data Link Layer interacts with lower layers to provide local inter-layer control services, such as determining the

transport format combination set (TFCS), for efficient usage of transport channels (i.e. Tunnels from the originating side radio controller to the receiving side radio controller). All information sent and received by a user is transported via the user plane. Application data is first packetized (i.e. Protocol Data Units being assembled) and then transported using the TCP/UDP transport protocol (i.e. Protocol Data Units being assembled at the originating terminal, and then transported thru tunnel to the receiving side terminal)).

Regarding claim 16, Malkamaki in view of Zhang and further in view of Menon teaches all the limitations claim 14. Zhang further teaches the method wherein further comprising: disabling a reassembly function at a Radio Link Control (RLC) layer of a first radio link so that the Radio Link Control (RLC) forwards the Protocol Data Units (PDUs) to a second radio link as soon as the PDUs are correctly received; and reassembling the PDUs into Service Data Units (SDUs) as the PDUs are correctly received at a receiving radio network control node ([0126] (e.g. The Radio Link Control (RLC) sub layer of the Data Link Layer provides three types of modes for data delivery, among which, the transparent mode transmits higher layer Protocol Data Units (PDUs) only with segmentation/reassembly functionality. The unacknowledged mode transmits higher layer PDUs without guaranteeing delivery but with a user-defined maximal number of retransmissions. The acknowledged mode transmits higher layer PDUs with guaranteed error-free delivery)).

3. **Claims 9, 13, 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al. (US 20020054578 A1), in view of Menon et al. (US 20020048268 A1).

Regarding claim 9, Zhang teaches a method of operating a user terminal of a mobile radio communication system ([0004] (e.g. the third generation (3G) system is designed for high-

speed multimedia data (i.e. packet switched session) and voice (i.e. circuit switched session). Its goals include high-quality audio and video transmission)),

Zhang does not expressly teach that the network node management protocols (TCP). However, the preceding limitation is known in the art of communications. In the same field of endeavor, Menon teaches the network node management protocols ([0185] (e.g. the network node management protocols, i.e., SNMP, FTP and MFTP, is a Transmission Control Protocol (TCP)/Internet Protocol (IP) channel, or connection, for the transfer of management data (i.e. sending parameters for a packet switched session) requiring a secure, i.e., reliable, transmission path. The TCP layer and IP layer of the node manager protocol stack and the TCP layer and IP layer of the node element protocol stack support secure TCP/IP channels for the transmission of management messages (i.e. data packets) between the nodes)); ([0086] (e.g. The private IP network is a managed IP network wherein resource management (i.e. managing resources for combinational multimedia and voice sessions so as to optimize radio resource usage) and Quality of Service (QoS) aspects of the system services are controlled. the private IP network provides wire line interfaces to one or more access routers, one or more H.323 gateways (i.e. wireless interface) , one or more fax gateways, one or more packet data gateways (i.e. setting one or more TCP sending parameters for a packet switched session so that data traffic is transport effectively, that may include changing TCP parameters used in a non-combinational multimedia session) , including one or more Internet gateways, and one or more H.323 gatekeepers of the system)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invitation to implement the method of Menon within the method of Zhang to allow two or more communication interface techniques in a wireless network. The new method gives flexibility and

hence versatile network. The new method speed-up network traffic flow and making it easier to manage network.

Regarding claim 13, Zhang in view of Menon teaches all the limitations claim 9. Zhang further teaches the method wherein sending parameters are segment size and/or initial window size ([0124] (e.g. All information sent and received by a user is transported via the user plane. Application data is first packetized (i.e. TCP parameters are segment size) and then transported using the TCP/UDP transport protocol)).

Regarding claim 17, Zhang teaches a method of operating a mobile radio communication system comprising: detecting activation of a combinational multimedia session involving circuit switched and packet switched sessions between user terminals associated with respective radio network control nodes ([0072] (e.g. To effectively deliver multiple services over 3G W-CDMA channels, multiple stream support and QoS level differentiation should be addressed in the architecture. Multiple Stream Support is defined as the ability to simultaneously support streams with different QoS level requirements (i.e. detecting combinational multimedia session and transmitting data accordlying). This is important since multimedia communications between users may have components such as voice (i.e. circuit switched), video (i.e. multimedia switched), and data with different QoS level requirements. QoS Level Differentiation is defined as the ability to provide various data rates and various Bit Error Rates (BERs) to higher Network Layers));

setting one or more Transport Control Protocol (TCP) sending parameters at least one user terminal for said packet switched session at a suitable value for the combinational multimedia session ([0098] (e.g. adaptively selecting TCP protocol for the delivery of Web data

and file data, and adaptively selecting a proposed UDP-like protocol for the delivery of other data, such as real time data including video and audio));

The suitable value for the TCP parameter(s) being different from the parameter(s) used for non-combinational multimedia session related packet traffic ([0073] (e.g. the third generation (3G) wireless standards define concepts that can support ranges of parameters values. This results in many alternative ways to map a set of traffic and QoS level parameters of the upper Application Layer to the lower layers for radio transmission)).

Zhang does not expressly teach that the signals can be transported over two cascaded radio links.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Menon teaches cascaded radio links ([0189, 0190] (e.g. the Network management architecture for a BSS is based on the ETSI GSM (Global System for Mobile communication) series standard, such that the management functionality is cascaded as shown in FIG. 14 (i.e. Fig 13-21. management functionality includes management of network nodes in a wireless access network, Management of communication protocols, Management of data and circuit switching signaling plane, etc.)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invitation to implement the method of Menon within the method of Zhang to allow two or more communication interface techniques in a wireless network. The new method gives flexibility and hence versatile network. The new method speed-up network traffic flow and making it easier to manage.

Regarding claim 18, Zhang in view of Menon teaches all the limitations claim 17. Zhang further teaches a method wherein further comprising setting at least one of the PCT parameters of segment size and initial window size ([0073] (e.g. the third generation (3G) wireless standards define concepts that can support ranges of parameters values. This results in many alternative ways to map a set of traffic and QoS level parameters of the upper Application Layer to the lower layers for radio transmission (i.e. mapping/setting at least one of the parameters of segment size and initial window size))).

Regarding claim 19, Zhang in view of Menon teaches all the limitations claim 17. Zhang further teaches a method wherein further comprising setting the TCP sending parameters such that a TCP sending window is greater than a size of media to be sent ([0073] (e.g. The third generation (3G) wireless standards define concepts that can support ranges of parameters values. This results in many alternative ways to map a set of traffic and QoS level parameters of the upper Application Layer to the lower layers for radio transmission (i.e. mapping/setting parameters of segment size greater than a size of media to be sent))).

Regarding claim 20, Zhang in view of Menon teaches all the limitations claim 17. Zhang further teaches a method wherein setting the TCP sending parameters comprises increasing a TCP window size relative to that used for non-combinational multimedia session related packet traffic ([0127] (e.g. The Medium Access Control (MAC) sub layer of the Data Link Layer functions in the selection of an appropriate transport format for each transport channel according to the instantaneous source rate. The transport format defines the transport block size (size of the RLC frame in transparent and unacknowledged modes); the transport block set size, the transmission time interval (TTI), the error detection capability (size of CRC), the error protection

(channel coding) rate, etc. On the receiver side, after decoding the Transport Format Combination Indicator (TFCI) information, users can obtain the bit rate and channel decoding parameters for each transport channel. (I.e. user can increase TCP window size relative to optimization criteria))).

6. **Claim 21 is** rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki et al. (US 20020172208 A1), in view of Zhang et al. (US 20020054578A1) and further in view of Menon et al. (US 20020048268 A1) and further in view of NPL (QoS guaranteeing during UMTS packet domain handover, IEEE, 2003 By Shen Qingguo).

Regarding claim 21, Malkamaki teaches a method of optimising the use of radio resources in a mobile radio communication system during a combinational multimedia session involving circuit switched and packet switched sessions between user terminals associated with respective radio network control nodes, where signals are transported over two cascaded radio links, the method comprising:

at a sending radio network control node, disabling an in-sequence delivery option of packets between the radio network control nodes of the radio access network(s) serving the user terminals for said packet switched session ([0012] (e.g. Therefore, it is advantageous for either MAC-hs to provide in-sequence delivery of the RLC-PDUs of a message or for the RLC layer to be modified to support out of sequence delivery of RLC-PDUs (i.e. in-sequence delivery))); ([0019] (e.g. the MAC-hs entity of the receiving terminal may provide the signaling

acknowledging receipt of the data blocks without use of sequence numbers (i.e. disabling an in-sequence delivery option) and may deliver the data blocks in order to the RLC layer of the receiving entity));

Malkamaki does not expressly teach multimedia system using packet switched session.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Zhang teaches multimedia system [0002] (e.g. the present invention relates to transmission of data over a network, and is more particularly related to systems, methods, and program products for transmission of multimedia data to a wireless host through a network)).

Malkamaki or Zhang does not expressly teach that the signals can be transported over two cascaded radio links.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Menon teaches cascaded radio links ([0189, 0190] (e.g. the Network management architecture for a BSS is based on the ETSI GSM (Global System for Mobile communication) series standard, such that the **management functionality is cascaded** as shown in FIG. 14 (i.e. Fig 13-21. management functionality includes management of network nodes in a wireless access network, Management of communication protocols, Management of data and circuit switching signaling plane, etc.)).

Malkamaki, Zhang or Menon does not expressly teach wherein jitter caused by delaying the sending of packets from a sending terminal is a cause of under-utilization of the radio resources.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Shen teaches preventing discontinuity of data ([Abstract] (e.g. the multimedia service quality can be guaranteed by packets bi-casting in backbone and radio signal macrodiversity. By adapting and extending the data link protocols GTP-UIPDCPIRLC, we synchronize the packet streams in the new and old backbone routes. For the Streaming class we propose a new RLC mode called No-sequencing Acknowledged RLC, assuring packet lossless delivery and throughput steady during relocation. [Downlink Relocation] These Perfected data prevent video playing discontinuity (i.e. jitter free sending packets) during Handover and bad wireless link time)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invitation to implement the methods of Shen, Zhang and Menon within the method of Malkamaki to allow two or more communication interface techniques in a wireless network. The new method gives flexibility and hence versatile network. The new method speed-up network traffic flow without jittering and making it easier to utilize resources fully.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahendra Patel whose telephone number is 571-270-7499. The examiner can normally be reached on 9:30 AM to 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Paul Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http: //pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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